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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

JERABEK, KELLY L

ART UNIT PAPER NUMBER

2612

DATE MAILED: 02/26/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/663,338

Applicant(s)

GFELLER, KARL

Examiner

Kelly L. Jerabek

Art Unit

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--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☒ Claim(s) 9-14 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 September 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date attached
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____

DETAILED ACTION

Drawings

New corrected drawings are required in this application because some of the reference numbers are unreadable. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Specification

This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

Claim Objections

Claims 1-2, and 6-7 objected to because of the following informalities: Some of the reference characters included in the claims are written incorrectly. Appropriate correction is required.

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Claims 9-14 objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 6 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 6 recites the limitation "said plane" in line 6 of page 10. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8 rejected under 35 U.S.C. 103(a) as being unpatentable over Robinson US 4,920,418 in view of Naohiko JP 10285475.

Re claims 1, 3, and 4, Robinson discloses in figure 1 a glass plate (2) operating in an imaging beam of an imaging apparatus that is tilted by a driver (10) (col. 3, lines 13-16). The glass plates (2) are tilted by piezo-electric bi-morphs (col. 3, lines 27-30; figs. 2a, 2b). The glass plates (2) are driven in certain directions according to the voltage applied to the piezo-electric bi-morphs (col. 3, lines 28-46). The glass plates (2) are connected to the reference system (support) and bending is performed about swiveling axes (hinges) that are parallel to each other and perpendicular to the driving direction (fig. 2B). Although Robinson discloses all of the above concepts, he does not state that the imaging apparatus is a digital camera. Furthermore, he does not state that the CCD of the camera is tilted.

Naohiko discloses a digital still camera that can obtain high resolution using an image sensor of a limited number of pixels (paragraph 5). The digital camera includes an image sensor (5) formed on the surface of a stage (1) that is electrically movable in the x and y directions through the use of bi-morph elements (6a, 6b) and pivots (7a, 7b) (paragraph 17). Although bi-morph elements are used to tilt glass plates (2) in the invention disclosed by Robinson, Naohiko shows that they can also be used to tilt the CCD itself. Therefore, it would have been obvious to include the electrically movable CCD of a digital camera as disclosed by Naohiko in the imaging apparatus disclosed by Robinson. Doing so would provide a means for electrically adjusting the location of the CCD using a combination of piezo-electric bi-morphs and hinges.

Re claim 2, Robinson states that the glass plate (2) is tilted in one plane and thus it moves in two directions. In addition, the hinges are each parallel to one of the directions (fig. 2b) (col. 3, lines 28-46). Furthermore, the movement is created exclusively by two independent piezo-electric bi-morph drive components (fig. 2b).

Re claim 5, Naohiko discloses a digital camera with a movable CCD capable of taking multiple photos (paragraph 35).

Re claim 6, Robinson discloses in figure 1 a glass plate (2) operating in an imaging beam of an imaging apparatus that is tilted by a driver (10) (col. 3, lines 13-16). The glass plates (2) are tilted by piezo-electric bi-morphs (col. 3, lines 27-30; figs. 2a,

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2b). The glass plates (2) are driven in certain directions according to the voltage applied to the piezo-electric bi-morphs (col. 3, lines 28-46). The glass plates (2) are connected to the reference system (support) and bending is performed about swiveling axes (hinges) that are parallel to each other and perpendicular to the driving direction (fig. 2B). Although Robinson discloses all of the above concepts, he does not state that the imaging apparatus is a digital camera. Furthermore, he does not state that the CCD of the camera is tilted.

Naohiko discloses a digital still camera that can obtain high resolution using an image sensor of a limited number of pixels (paragraph 5). The digital camera includes an image sensor (5) formed on the surface of a stage (1) that is electrically movable in the x and y directions through the use of bi-morph elements (6a, 6b) and pivots (7a, 7b) (paragraph 17). Although bi-morph elements are used to tilt glass plates (2) in the invention disclosed by Robinson, Naohiko shows that they can also be used to tilt the CCD itself. Therefore, it would have been obvious to include the electrically movable CCD of a digital camera as disclosed by Naohiko in the imaging apparatus disclosed by Robinson. Doing so would provide a means for electrically adjusting the location of the CCD using a combination of piezo-electric bi-morphs and hinges.

Although the art mentioned above does not explicitly mention a hinge connection that has at least three swiveling axes, it does state that the bimorphs are connected to the axle by means of hinges (col. 3, lines 44-46). Case law states that the use of duplicate parts for a multiplied effect is not patentable (St. Regis Paper Co. v. Bemis Co., Inc., 193 USPQ 8, 11 (7th Cir. 1977)).

Re claim 7, the hinges may be aligned at an angle that makes them perpendicular to one another depending on the desired tilting of the glass plate (2) (fig. 2b).

Re claim 8, the hinges disclosed by Robinson are bonded to a thin metal plate (13) (col. 3, lines 28-33).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yamada et al. (US 6,577,341) discloses an imaging apparatus. The material regarding the image shifting mechanism is pertinent material.

Suzuki et al. (US 6,236,430) discloses a color still image sensing apparatus and method. The material regarding displacing a solid-state image sensing device is pertinent material.

Contacts

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Kelly Jerabek whose telephone number is (703) 305-8659. The examiner can normally be reached on Monday - Friday (8:00 AM - 5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached at (703)-305-4929.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.

The fax number for submitting all Official communications is (703) 872-9306.

The fax number for submitting informal communications such as drafts, proposed amendments, etc., may be faxed directly to the Examiner at (703) 746-3059.

KLJ


YULE
PRIMARY EXAMINER